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A Pilot Study Measuring the Effect of the Video Tape Recorder in Improving Student Teacher Auditory and Overt Behavior Performance Skills During Their Student Teaching Experience

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A PILOT STUDY MEASURING THE EFFECT OF THE VIDEO TAPE RECORDER IN IMPROVING STUDENT TEACHER AUDITORY AND OVERT BEHAVIOR PERFORMANCE SKILLS DURING THEIR STUDENT TEACHING EXPERIENCE

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CHAPTER I

THE PROBLEM AND DEFINITION OF TERMS USED

Learning to teach is the paramount concern of student teaching. This involves awareness, practice, and evaluation of many behaviors designated as teaching skills or competencies. The curriculum of teacher education institutions provides the background needed to achieve this competence. Offerings in human growth and development, principles of learning, curriculum methods and materials are combined with major and minor areas of specialization to insure an adequate background prior to field experience.

The college supervisor and cooperating teacher have a primary responsibility in providing opportunities for the student teacher to improve and sharpen teaching competencies. The college supervisor carries the responsibility of the overall supervisory instruction provided the student teacher. This includes securing the kind of experience which will prepare students for successful teaching as well as a constant awareness of the development of learning experiences and frequent evaluation of his progress. The cooperating teacher becomes the focal point of a successful teaching experience. The freedom and guidance given by the one who sees the student teacher daily can initiate a high degree of enthusiasm about teaching. Patterns of beginning

teaching are influenced by the cooperating teacher, thus pointing to the close understanding and working relationship needed by all participants in the program.

I. THE PROBLEM

Need for the Study

It is generally agreed that learning is self-oriented. Experience remains only experience until it is evaluated. Properly evaluated, these experiences become learning and broaden the individual's development.

Teaching is viewed as a creative process and it is desirable for prospective teachers to become increasingly self-directive, analytical, and perceptive in developing their own unique abilities. Constant interaction among college supervisors, cooperating teachers, and student teachers is necessary if teaching competency is to develop. Interaction can be achieved through regularly scheduled conferences. These conferences, however, require all participants to rely on memory or notes in discussion and evaluation of a previous performance.

Often times verbal communication is not entirely clear and the student teacher is left with unanswered questions that possibly could have been resolved by providing a visual recall of the problem through a video tape replay. The replaying of student teaching performances might serve

as motivation in achieving preplanned conference objectives concerning all participants. The student teacher could become more confident through verbalizing sound principles as the principles relate to the teaching act. The cooperating teacher and supervisor, with the capability of providing a visual and audio recall of teaching problems in their planning-evaluating process, would then be in a stronger position to judge the necessity for specific discussion and can help each student teacher better clarify his thinking and deepen his insights.

Purpose of the Study

The purposes of this study were to (1) measure the effectiveness of the video tape-recorder as a teaching tool in improving student teacher performances in their application of specific teaching behaviors and (2) determine if student teachers' self-confidence in their ability to teach can be increased through video tape replay experiences.

Hypothesis

Within the confines of this study it was hypothesized that student teachers receiving video tape treatment throughout the quarter would display better teaching performances and express higher self-confidence in their ability to teach than those not receiving video tape treatment.

Limitations of the Study

This study was limited to twenty-six students enrolled in Education 442, Student Teaching, and Education 445, Student Teaching Seminar, Winter quarter, in the Ellensburg and Kittitas Student Teaching Centers of Central Washington State College, Ellensburg, Washington.

Participation of college supervisors was limited to the three regularly assigned to the Ellensburg and Kittitas Student Teaching Centers.

This study was limited to the application and performance of auditory and overt behaviors listed as: overt mannerisms, complementary teacher movements, effective use of voice, effective eye contact, appropriate gestures, effective pausing, oral-visual switching, stressing key points, and effective interactions.

The study had a recognized limitation of focusing entirely upon the student teacher and the delivery of a planned lesson. No attempt was made to analyze and evaluate the student teacher in terms of children's behavior and reactions to the teaching performance.

II. DEFINITION OF TERMS USED

Student Teaching

The period of time during which a pre-service teacher is assigned to a public school for supervised teaching experiences as a part of his college program.

Student Teacher

A college student who is acquiring practical teaching experience and skill under the guidance of a supervising teacher or other qualified person.

College Supervisor

A member of the college or university faculty who supervises the student teacher's work in the cooperating school and coordinates student teaching activities. This person is frequently called a college coordinator.

Cooperating Teacher

The selected classroom teacher who guides the daily experiences of the student teacher. The term cooperating teacher connotes cooperation with a teacher education program.

Student Teaching Center

The local school and community in which prospective teachers spend a period of time under the guidance of a supervising teacher in cooperation with a teacher-training institution.

Portable Video Tape Laboratory

For the purposes of this study, portable video tape laboratory was defined as a Sony SV - 300 Video Tape-recorder, PVJ - 510 9" video monitor, General Electric Camera - Model

500, with F 2.5 zoom lens mounted on tripod. This term was considered synonymous with the term video tape-recorder and the initials VTR.

Video Tape Replay

For the purposes of this study, the term video tape replay was defined as the replaying of a student teacher's video taped teaching performance by the student teacher, cooperating teacher, or college supervisor for purposes of evaluation and planning for further teaching performances.

Teaching Performance

For the purposes of this study, teaching performance is defined as the delivery of a planned lesson to a group of children by the student teacher.

III. ORGANIZATION OF REMAINDER OF THESIS

The pertinent literature will be reviewed in Chapter II. Emphasis will be placed on the role of television in education, teacher education, and student teaching. In Chapter III, the design of the study will be discussed, followed by an analysis of the data in Chapter IV. Summary, conclusions, and recommendations will be discussed in Chapter V.

CHAPTER II

REVIEW OF THE LITERATURE

In the past fifteen years, the value of instructional television in education has been subjected to more research than any recent instructional innovation. Perhaps the initial cost of installing equipment demands evidence to support its use. A variety of techniques as to its use have been demonstrated by various school districts, colleges, and universities throughout the nation.

I. INITIATORY STUDIES OF TELEVISION IN EDUCATION

Several studies conducted in the 1950's and sponsored by the Ford Foundation are concisely summarized by Murphy and Gross (10). These studies were designed to implement in a variety of situations, television's potential applications to education. The following studies have a common hypothesis that extra-large television classes would make it possible to increase the effectiveness of the most highly qualified teachers.

The first sponsored study was the Stoddard Plan. It involved more than 200,000 students in 800 schools throughout the United States. Class size ranged from 175 elementary students to 500 students in the junior and senior high classes.

> The results showed that television could be used to teach very large classes, with corresponding savings in teacher time and classroom space, and there was at least tentative confirmation of the hypothesis that television could improve the quality of education with no increase in cost (10:37).

A second study was undertaken in response to an acute shortage of teachers in the 1950's. Texas became a leader by enrolling more than 1,000 college graduates in a one-year televised course with the cooperation of all teacher training institutions in the state, the Texas department of education, and eighteen commercial television stations. Any student enrolling for credit and completing the one-year program qualified for a temporary permit.

> The Results: Television is currently used to limited extent to train teachers (generally for observation and for inservice training). And, of course, in-school TV programs are a prime means of educating the teachers along with their classes. But the statewide Texas experiment, for all its promise, found no followers in other states. And Texas itself dropped the program when the Foundation grant ended. Actual results of the experiment were disappointing: The pool of recruits was smaller than expected, and the per capita cost of training was high (10:38).

A spectacular study design became a reality in 1961 when the Midwest Program On Airborn Television Instruction (MPATI) went into operation. It began transmitting over two channels from a DC-6 airplane circling four miles above the town of Montpelier, Indiana. Instructional programs could be received over a radius of 150 to 200 miles in all directions, reaching parts of six states.

> The Results: Today MPATI's future in uncertain. The long awaited FCC ruling, finally promulgated in the summer of 1965, denied its request for six channels, continued the organization's experimental status until 1970, and recommended conversion to the still unproved 2,500 megacycle system . . . . Perhaps its most lasting contribution is its demonstration of the feasibility of school collaboration over a wide region.

Chicago City Junior College designed a study to determine the feasibility of broadcasting an entire two-year program over television. This would enable students to receive a higher education and earn a degree by regular television viewing at home.

> The Results: The TV College is an outstanding success. This early experiment proved conclusively that a student could pursue a junior college program exclusively over television . . . . Television's potential use in helping to educate these students, in the face of an acute faculty shortage, is obvious. Chicago's experience has therefore aroused great interest and brought a stream of observers . . . . Chicago's success in bringing education into the home has not been readily transportable, and legal barriers have prevented other junior colleges from using Chicago's taped courses (10:39).

Pennsylvania State University participated in a four-year experiment testing television in a variety of uses. Various subjects televised and student response to this technique was thoroughly evaluated.

> The Results: Penn. State continues to make extensive use of television for on-campus instruction, with the project entirely self-supporting since 1960. TV enrollment reached a peak of just over 20,000 in 1962; since then it has leveled off to about 13,000. The decrease is attributable primarily to a university decision to make optional certain previously required courses that had inflated the TV enrollment figures in the early 1960's (10:39).

Murphy and Gross show evidence that television does work as an educational tool.

> Students can learn from television as they can learn from teachers and texts, radio, recording, and films. But educators are still far from grasping the real nature and potential of television (10:10).

II. TELEVISION IN TEACHER EDUCATION

The combining of technology and education is becoming more the rule than the exception in our nation's schools and colleges. Current widespread practices indicate a willingness and determination by educational leaders to make creative application of technology in the solution of instructional problems.

The Multi-State Teacher Education Project (M-STEP), a cooperative project combining seven states (Florida, Maryland, Michigan, South Carolina, Washington, West Virginia, and Utah), is currently exploring many different and varied applications of television and related media to education. Individual states are conducting studies applicable to their immediate needs. Winters and McHenry (1) report that studies are being conducted to determine if video tape teaching episodes can replace live directed observations. The ever-increasing demand for high quality student teaching stations and fewer model teachers to observe is causing educators to seriously consider the

application of video tape. Advantages reported by the authors indicate:

> The recorded episode can be viewed, stopped, repeated, discussed, continued, and studied in great detail. With direct observation, the events pass and probably nobody remembers exactly what was witnessed in any great detail. In fact, perhaps no two people would see exactly the same thing. The video tape observation . . . permits the instructor to preview the presentation, call attention to specific or characteristic teaching techniques or methods, and replay all or part of the tape to reinforce specific points (1:11).

Robert C. Jones, University of Massachusetts, describes overcrowding of observation corridors at the University Laboratory School. Education students are required to complete twelve hours of directed observation during their freshman year and fifteen hours during their junior year. School staff members pointed out numerous advantages from using video tape.

> A more flexible sequence of observation is possible. Special school activities can be taped and stored for viewing at an opportune time. The laboratory teacher can plan for taping in the classroom specific activities which she feels will make an important contribution to the classes. Finally, the video tapes make it possible to conduct effective observations in a large group setting, an important consideration with the increasing University enrollment. The tapes have enriched the observation program and are an important supplement to the excellent observation corridor.

In many teacher education programs, students are being provided an opportunity to observe their teaching performances through video tape replay. This experience is being developed by using a technique called micro-teaching.

This procedure allows the beginning teacher to teach a five or ten minute lesson segment to a small group of youngsters. Inexperienced teachers are confronted with a very small audience which helps build self-confidence and hopefully allows a more meaningful appraisal of teaching skills by the student and instructor.

Stanford University has been instrumental in initiating annual summer micro-teaching clinics. Recent teacher education graduates were hired and trained in micro-teaching techniques for an eight-week period. High school students were used as audiences. The findings are reported as follows:

> Candidates receiving student feedback (in addition to the video playback) improved significantly more in their teaching performances than candidates not having access to such feedback. . . . . Stanford personnel note that the video tape-recorder is a valuable adjunct to the micro-teaching process because of the immediate feedback available to the teacher. It was further concluded that it is of little help merely to sit and view the video tape in a global fashion; specific things (one or two) to look for need to be pointed out to the student teacher (1:27).

Brigham Young University has conducted approximately 200 micro-teaching sessions since spring of 1966. Students and instructors react extremely favorable to this experience.

> Experience at Brigham Young University corroborates the conclusions suggested by the Stanford research: Observing a trainee's teaching performances globally is much less valuable than observing, and helping him to observe, one or two specific, discriminable actions within the teaching act. . . . . When utilized to deal with specific teaching actions micro-teaching, including video tape, has a tremendous potential for changing the behavior of teachers (1:29).

Projects concerning teacher inservice are also being explored by M-STEP participants throughout the United States. Since 1965, Georgia has produced a series of video tapes on the teaching of reading. The program consists of eighteen thirty-minute tapes. Major emphasis of this project was to help teachers evaluate their present program and give guides for needed changes.

> Though no systematic evaluation of the series was undertaken, feedback from viewing groups indicates that the program did generate interest in the improvement of reading instruction . . . . teachers have requested that the series be shown again in 1967-68 and that college credit be given to participants (1:39).

During 1966-67, 11,000 elementary and junior high school teachers and administrators from Georgia participated in a carefully designed mathematics inservice training program. The design included the feasibility of using educational television with problem sessions to adequately retrain a large number of teachers. Data has not been collected or processed but certain observations appear to be valid.

1. The use of a state television network and adjunct instructional sessions is effective in teaching a large number of teachers.

2. The entire operation when measured in terms of cost per student is extremely efficient.

3. The program produces an interesting by-product namely the development of specially trained instructors who are locally available for further inservice programs (1:41).

III. TELEVISION IN STUDENT TEACHING

Teachers and students alike place great emphasis on the importance of student teaching and its contribution to the individual who will be working the following year as a full time, fully responsible teacher. A basic rationale for student teachers placed in classrooms is to engage in and properly evaluate ideas and methods essential to successful teaching in the future.

Hunter College of New York, assisted by the Office of Education, initiated a two-phase program dealing with student teachers in the classroom. Phase one completed in 1966 dealt exclusively with supervisor evaluations of student teachers' performances with and without kinescope recording. Performances were evaluated using the OScAR Technique (11) developed at the University. Findings reported indicate:

> While the value of student teaching is supported in this research, significant differences were not found among the kinescope, direct observation, and observation-plus-kinescope technique. . . . . Supervisors . . . responded favorably to the use of kinescope. They much preferred the use of the combined method, observation plus kinescope (12:364).

M-STEP is also initiating several studies concerning improvement of supervisor-student involvement in lesson presentation and evaluation. Since 1963, Syracuse University has expanded their video tape program to include two taping sessions of all elementary and secondary student teachers. This program involves two thirty-minute segments

of continuous classroom activity, sometimes with special planning, at other times with quite routine activities. Student reaction has been very favorable.

> Their reactions have ranged all the way from self-condemnation through quite objective analysis to defensiveness and self-justification. Some have tended to focus on the pupils and their behavior and to see things happening in the classroom that they had not been aware of while teaching (1:14).

Extension of the present Syracuse program includes a workshop in the supervision of elementary student teachers. During the 1967 Summer Session, thirty-five elementary teachers were trained in operation of camera and video tape-recorder and in ways to provide feedback to student teachers.

> The accompanying research will follow these student teachers and another group working with untrained teachers to assess any differences in instructional behavior between the two (1:16).

Washington State University was invited to participate in the M-STEP project in 1966. Investigations into a program design involving early on-the-job training of teacher education brought Bellevue Public Schools and WSU into close working agreement. Two propositions grew out of these early investigations: (1) Effective teaching can be defined in terms of specific teaching performances and (2) apparently teachers learn their trade on the job.

> During the school year of 1968-69 . . . there will continue to be provisions for special training on the job, allowing these beginning teachers to continue their analysis and practice of specific teaching performances. In the final year of the project, 1969-70,

> there will be occasional but regular opportunities for the thirty experimental teachers to renew their skills by analyzing their own and others competencies in the specific behaviors. We expect to make considerable use of video tape recordings in this continuous study (15:19).

Dr. Charles Vlcek reports that Central Washington State College is currently using thirteen video tape recording laboratories in off-campus student teaching centers throughout the State of Washington. To insure meaningful evaluation and adequate time for observation of student teachers, supervisors state that:

> The Flander's Scale provides . . . an opportunity to be more specific in their critiques and therefore provide a greater learning experience for the student . . . . Supervisors stated that to provide them with an opportunity to observe all their student teachers an adequate number of times, that the classroom teacher and the student teacher set up and operate the equipment. The supervisor's time is then used only during the critique mode . . . . A side benefit of the use of the equipment in the field is the development of interest by public school personnel (14:386).

IV. SUMMARY OF RELATED RESEARCH

Television entered the field of education in the early 1950's. Extensive research has been conducted to find how this innovation could be most effectively used.

The review of literature reveals that the Ford Foundation (Fund for the Advancement of Education) was instrumental in providing funds for needed research in instructional television in education. The common

hypothesis formulated for these early studies was--extra-large television classes would make it possible to increase the effectiveness of the most highly qualified teachers. Evidence was shown that television does work as an educational tool. Students do learn as effectively from television as they do from texts, teachers, radio, recorders, and films. Educators, however, are far from grasping the real nature and potential of television.

The literature also revealed that television in teacher education presents to students an opportunity to record their practice teaching performances for analysis and evaluation. Stanford and Brigham Young Universities have reported positive results in micro-teaching experiences for teacher education students. Evidence indicated that pre-teaching experiences become more meaningful when students are allowed to focus on only a few recorded teaching behaviors for careful evaluation. The opportunity to play back teaching performances has been reported an outstanding feature of the video tape-recorder.

The use of video tape in substitution of live direct observations has been quite successful. Educators are of the opinion that video taping selected teaching performances can help eliminate the increasing problem of crowded university enrollment in undergraduate teacher education classes.

The review of literature indicated that M-STEP is beginning to focus upon the use of television in Student Teaching. The WSU-Bellevue project uses video tape extensively in recording student teachers' on-the-job teaching performances for later evaluation.

Hunter College is conducting extensive studies in the area of student teacher-supervisor evaluation techniques. No significant differences were reported from Phase I of the study completed in 1966. Student teachers and supervisors both reported favorable comments on the use of kinescope-plus-supervisor evaluation techniques.

After reviewing the literature and summarizing the findings in this chapter, the design for this study will be described in Chapter III.

CHAPTER III

DESIGN OF THE STUDY

I. DESCRIPTION OF THE SAMPLE

The subjects selected to participate in this experiment were randomly selected during the winter quarter from enrollments in Education 442, Elementary Student Teaching, and Education 445, Student Teaching Seminar, of the Ellensburg and Kittitas Student Teaching Centers of Central Washington State College, Ellensburg, Washington. Twenty-eight students were enrolled in this program during the Winter Quarter, 1968.

Not all of the twenty-eight students enrolled were eligible for the study. One student was dismissed because a one-half Special Education assignment would not allow full participation in a regular classroom. To obtain equal numbers within each supervisory group, an additional deletion was necessary. One name was randomly drawn from supervisory group B and data not collected.

The remaining twenty-six students were randomly divided into two groups. The experimental group contained 10 women and 3 men; the control group contained 11 women and 2 men.

II. INSTRUMENTATION

A post experience rating instrument was designed and tested for use in the study. This instrument was designed to measure the effectiveness of video tape recorder as a teaching tool in providing video recall of teacher behaviors to improve student teacher performances of specified teaching strategies. A confidence scale was constructed to determine if student teachers' self-confidence in their ability to teach could be increased through video tape replay experience. To determine student reaction of the video replay experience, an attitude scale was constructed.

Post Experience Rating Instrument

The rating instrument was divided into nine sections: (1) Overt Mannerisms, (2) Complementary Teacher Movements, (3) Effective Use of Voice, (4) Effective Eye Contact, (5) Appropriate Gestures, (6) Effective Pausing, (7) Oral-Visual Switching, (8) Stressing Key Points, and (9) Effective Interactions. These nine sections correspond with behaviors usually developed and evaluated during any student teaching experience.

Initial behaviors were selected from the Stanford Micro-Teaching Report (2). Further refinement came as a result of meeting with the three supervisors to determine

specifically the applicability of behaviors to the supervisor's program.

Description of categories. As previously discussed, initial selection of behaviors to be rated were drawn from the Stanford Micro-Teaching Report. To design the instrument to fit the regular supervisory program, the three supervisors were asked to eliminate any behaviors not usually developed in their particular programs. Pre-testing the instrument led to further clarification of behaviors. Basic behaviors selected were overt behaviors that could be observed through video replay. Additional audio behaviors were selected to enhance the effectiveness of the behaviors listed as body movements.

The behaviors rated during the observation are listed and identified below:

1. Overt Mannerisms--Outwardly distracting mannerisms that cause students to concentrate on such mannerisms rather than the lesson being presented.

2. Complementary Teacher Movements--Specific body movements within the teaching area which enhance the lesson being presented.

3. Effective Use of Voice--Quality voice control properly used throughout the presentation which serves to enhance the quality of the lesson.

4. Effective Eye Contact--Eye contact with each student can help convey extra meaning of the lesson to each student.

5. Appropriate Gestures--Gestures correctly used in the presentation can convey extra meaning to the students.

6. Effective Pausing--A technique by which a teacher allows students time to think or reflect on previously presented material. Pausing is used during teacher presentations only. This technique can help students express themselves more meaningfully.

7. Oral-Visual Switching--A technique where the teacher has students project their ideas concerning a visual aid. Teacher alone does not tell importance of such aid. Successful oral-visual switching can become inquiry.

8. Stressing Key Points--A technique where teachers emphasize important points of lesson. This is accomplished by gesturing, voice inflection, and repeating ideas of importance. This technique is used for closure of a lesson.

9. Effective Interactions--(Teacher-Student) Teacher tries to make a point with, or for one student or asks a particular student a question. (Student-Student) Teacher takes student response and directs it to another student for comment or clarification. Teacher has one student explain something to another student and teacher is withdrawn briefly from the lesson while interaction occurs.

Description of rating scale. A ten-point scale was designed for rating student teacher performances. The number line was divided into five segments representing degrees of performance. The degree segments were labeled poor, fair, average, good, and superior. To offer a more precise rating, each segment was represented by two possible numerical choices. All behaviors were represented on a separate number line. Description of performances were listed within each degree segment. The rating scale is represented in the table below. See Appendix B for the entire instrument.

TABLE I

SCALE FOR RATING STUDENT TEACHER POST VIDEO REPLAY EXPERIENCE BEHAVIOR PERFORMANCES

Behavior	0 1	2 3	4 5	6 7	8 9
	poor	fair	average	good	superior

Validation of Rating Instrument

Five weeks were used to clarify, validate, and test behaviors selected for the observation instrument. Procedures used included familiarization and memorization of behaviors, viewing selected video tapes from Central Washington State College Audio-Visual Library, drop-in observations of instructors at the Campus Laboratory School, and observations of selected five-fifteen minute mirror teaching performances of Education 314 students.

A research assistant was hired for the pre-testing and observation phases of the study. The female selected possessed a Standard Teaching Certificate and had completed three years of successful teaching experience.

Several days were needed to become familiar with and memorize the selected teaching behaviors. Discussion between observers revealed that to be most accurate in quickly assessing selected behaviors, a small number of teaching behaviors should be selected.

Three video tapes were viewed during the second week of pre-testing. First, third, and fifth grades were selected to give a variety of grade levels in the beginning stages of observation. Moderate to highly structured classes were viewed to simulate the practices of schools included in the study. The tapes were stopped and replayed if necessary to allow the observers time for discussion, clarification, and refinement of the observation instrument. Rating of the teacher's delivery technique came after observing the entire presentation.

Both observers concluded that viewing video tape was necessary to insure accurate identification and clarity in rating behaviors. However, both observers agreed the tapes viewed were of experienced teachers resulting in high ratings of all behaviors observed.

The second phase of the pretesting was conducted at the Campus Laboratory School (Hebeler Elementary). Arrangements were made for four drop-in observations. Again, moderate to highly structured classes were chosen with a representation of first, third, and sixth grade levels. Both observers sat at the side of the room so both students and teacher could be seen. Discussion was held during and immediately after the presentation. Discrepancies between observers' ratings were noted and discussed in an attempt to determine the cause of the discrepancies. The differences

were then corrected. As in the first phase, individual rating sheets were used and ratings came at the conclusion of the presentation. The high level of teaching ability observed created a similar situation concluded in phase one. No comparison of high and low level teaching performances was possible at the laboratory school.

Permission was granted to conduct the remaining seven observations in a seventh period Education 314 class, Curriculum, Methods, and Materials. Students were required to present a five-fifteen minute presentation of a single concept. Class discussion followed each presentation. Advanced reading of the lesson plans indicated the procedure to be used and those elementary lessons most closely adapted to the nine behaviors selected for use in the study were observed.

During this final phase of observation, many discrepancies were still being resolved. Since discussion and comparison occurred during and after each presentation, a rank order coefficient could not be computed. However, the final observation of the pre-test phase was completed without discussion or comparison between observers. This final observation is summarized in Table II.

A Spearman Rho Rank Order Coefficient was calculated using nineteen of the twenty-three post experience observation ratings. The coefficient of observer agreement was .92.

TABLE II

FINAL PRE-TEST OBSERVATION

Behaviors*	1	2	3	4	5	6	7	8	9
Observer "A"	8	7	7	6	7	7	6	7	5
Observer "B"	8	6	7	7	8	7	6	7	6

* See Appendix B for complete description of behaviors.

Confidence Scale

A confidence scale was designed to determine if student teacher's self-confidence in his ability to teach could be increased through video tape replay experience. The confidence scale was limited to the measurement of general teaching competencies normally discussed and evaluated during the quarter of student teaching. An eight-question, four-point scale was devised. The midpoint on the scale was eliminated to force the student teachers to take a position above or below a center position. The instrument was administered to both groups before video tape replay experience and after the observers rated student teachers' performances in the classroom at the end of the quarter. No attempt was made to validate the instrument (Appendix D).

Attitude Scale

To determine the attitude student teachers had toward their video tape replay experience, a student reaction to

video replay experience instrument was constructed. Sixteen objective questions were directed to discover the feelings student teachers had toward the video tape replay experience. The instrument was administered to the experimental group during the last week of student teaching. No attempt was made to validate the instrument. (Appendix C.)

III. THE STATISTICAL HYPOTHESIS

To determine the effectiveness of video tape as a teaching tool in improving teaching performances and student teachers' self-confidence in their ability to teach, two statistical hypotheses were tested:

Null hypothesis$_1$: No differences would be found between groups provided with and without video tape replay experience in their ability to perform selected teaching strategies as measured by the post-rating instrument.

Symbolically: $H_{o_1} : M_1 = M_2$

Legend: M_1 = experimental group mean
M_2 = control group mean

Alternate hypothesis$_1$: Subjects receiving video tape replay experience would achieve higher mean scores as measured by the post-rating instrument than would the subjects who have received no video replay experience.

Symbolically: $H_1 : M_1 > M_2$

Legend: M_1 = experimental group mean
M_2 = control group mean

Null hypothesis$_2$: No difference would be found in confidence levels of subjects toward their ability to teach as measured by a confidence scale between subjects provided with and without video tape replay experience.

Symbolically: $H_2 : M_1 = M_2$

Legend: M_1 = experimental group mean
M_2 = control group mean

Alternate hypothesis$_2$: Subjects receiving video tape replay experience would exhibit a higher level of confidence in their ability to teach as measured by a confidence scale than subjects not receiving video tape replay experience.

Symbolically: $H_2 : M_1 > M_2$

Legend: M_1 = experimental group mean
M_2 = control group mean

IV. ASSIGNMENT OF CONTROL AND EXPERIMENTAL GROUPS

The subjects were selected and assigned to experimental and control groups by the following procedures. The twenty-six subjects within the adjusted population were grouped according to original supervisor assignment determined by the Director of Student Teaching. Each supervisor would have an equal number of control and experimental subjects throughout the quarter.

Names of subjects assigned to supervisor "A" were typed on individual cards and placed in a drawing container.

To determine if the first name selected from the drawing container should be assigned to the experimental or control group, a coin was flipped. The eight students assigned to supervisor "A" were alternately assigned to the control and experimental group. The ten students assigned to supervisor "B" and the eight students assigned to supervisor "C" were selected and assigned to the control and experimental groups exactly as students with supervisor "A".

Following the random selection, numbers were substituted for each name in all groups to prevent the observers associating names with experimental or control classification. Students were observed according to school to further control identity of students.

As previously discussed, very few men were assigned to supervisors and student teaching centers during the quarter the study was being conducted. Accordingly, there were 3 men and 10 women in the experimental group, and 2 men and 11 women in the control group.

No attempt was made to control the variables of sex, IQ, age, and student teacher's experience with children. These variables were assumed to be distributed equally in both groups through randomization.

V. TREATMENT

Students participating were introduced to the study through a common seminar held the second week of Winter

quarter. Both experimental and control groups were given the same information. The purposes of the study were outlined and explanation of the post video replay experience instrument, confidence scale, and attitude scale was given.

Students were told that individual ratings of behavior performance would in no way affect a final assessment of teaching ability given by the supervisor. Letter grades are not issued during the student teaching quarter.

The names of those randomly selected to participate in the experimental and control groups were read at the meeting. An explanation of random selection procedures was given.

A pre-experience confidence instrument was administered to both groups at this time.

To properly assess the value of the video tape as a teaching tool in providing video recall, supervisors were given the following instructions.

1. Do not teach the nine selected behaviors as a separate section of instruction. Include instruction of selected behaviors throughout the entire quarter.

2. Provide a usual student teaching experience for all participating in the study.

3. Provide experimental group with a minimum of two video replay experiences.

4. Provide control group with sufficient observation and critique for maximum evaluation and progress.

A meeting was held with the principals of the four schools in which the study was conducted. All were given copies of the instruments to be used and an explanation of the purposes of the study. Permission was granted the two observers to enter the buildings and visit the classrooms of the participating student teachers. Cooperating teachers were informed of the study by the supervisor, student teacher, or principal. No attempt was made to familiarize the cooperating teachers with the instruments used in the study.

During the quarter all students were given experiences in discussing, performing, and evaluating behaviors similar to those included on the rating instrument. The supervisors agreed to give the experimental group a minimum of two video tape replay experiences during the quarter. Additional critique experiences were given without video tape as time allowed. The control group had no exposure to video tape replay. Critique experiences were provided as often as necessary for normal evaluation purposes. Discussion resulting from control techniques involved student, supervisor, and cooperating teacher relying on memory or notes in the critique mode.

Administering the rating instrument began immediately after the experimental group had completed two video tape replay experiences. Schedules were obtained from each

supervisor for the final week of the student's classroom activities. Observation schedules were made according to building. This observational procedure helped to keep subjects' names from being linked with control or experimental groups. Twenty minutes were allowed for each observation. Pre-testing of the instrument indicated that all behaviors could be adequately observed in a twenty-minute sitting.

Two students were dismissed from the program for individual reasons. One student became ill the day of observation and did not return for completion of the quarter's program. The final adjusted sample was 23. This unavoidable reduction in sample yielded an experimental N of 11 and a control N of 12. No attempt was made to equalize the control or experimental groups.

Controls

The original twenty-six subjects were randomly assigned to one experimental group and one control group by drawing individual names from a container. A typical student teaching experience was needed to effectively measure the video tape-recorder as a teaching tool in providing video recall of teaching performances. Therefore, original selection and placement of applicants by the Director of Student Teaching, individual abilities of student teachers, were variables assumed to be randomly distributed between the two groups.

An attempt was made to control other variables of supervisor treatment of control and experimental groups, researcher and assistant biases, and student teachers' age, sex, IQ, and experience. These variables and their controls are summarized in Table III.

TABLE III

SUMMARY OF VARIABLES AND CONTROLS

Variables	Method of Control
1. Supervisor treatment of control and experimental group.	Each supervisor assigned equal number of control and experimental students.
2. Researcher's and Assistant's biases.	Students' names in both groups replaced by number. No further contact made during quarter. Observation by school assignment.
3. Sex, age, IQ, experience.	Randomization.

VI. SUMMARY

Subjects for the study were enrolled Winter Quarter in Education 442, Student Teaching, and Education 445, Student Teaching Seminar, as assigned to Ellensburg and Kittitas Student Teaching Centers, Central Washington State College, representing a total population of twenty-eight. This population was adjusted to twenty-six due to ineligibility factors.

A post video replay instrument was designed and tested prior to observing student teachers in the classroom. Initial behaviors were selected from the Stanford Micro-Teaching Report. The three supervisors involved eliminated behaviors not applicable to their program. Further adjustment and refinement came as a result of fourteen pre-experience observations. Nine behaviors were included in the post rating instrument.

The post experience rating scale consisted of five degrees of performance. Two numbers were placed within each block. The degree blocks were labeled poor, fair, average, good, and superior.

Five weeks were used in pre-testing the rating instrument. Procedures included familiarization and memorization of behaviors, viewing video tapes from Central Washington State College Audio-Visual Library, drop-in observations at the Campus Laboratory school, and observations of selected Education 314 five-fifteen minute mirror teaching performances. A Spearman Rho Rank Order coefficient between observers using the rating instrument was calculated, producing a coefficient of .92.

A fully certified female elementary teacher was hired to assist in the pre-testing and post-rating phases of the study.

An eight-question, four-point confidence scale was devised and administered after video replay experience.

Two hypotheses were formulated to obtain answers to the following questions:

1. Can desirable teaching behaviors be improved through video replay experience?
2. Can self-confidence of student teachers' ability to teach be increased by video replay experience?

A compilation of the findings of the study are reported in Chapter IV.

CHAPTER IV

ANALYSIS OF RESULTS

A compilation of the statistical findings of the study are reported in this chapter. The effects of the video tape replay experience as measured by the post-experience rating instrument, and the student teachers' indicated confidence in their ability to teach will be reported.

I. FINDINGS OF THE STUDY

The first hypothesis tested in this study was:

H_{o_1}: No difference would be found between groups provided with, and without, video tape replay experience, in their ability to perform selected teaching behaviors, as measured by the post-experience rating instrument used by the investigator.

Symbolically: $H_{o_1}: M_1 = M_2$

A post-experience rating instrument was designed to provide evidence for this hypothesis. The instrument was composed of nine teaching behaviors, using a ten-point rating scale for each behavior, as was previously discussed in Chapter III.

In responding to the behaviors measured, the control group mean score was 5.62 with a variance of 2.57, while the experimental group mean score was 6.48 with a variance

of 1.65. The experimental group mean score was .86 higher than the control group mean, and the variance of the control group was .92 lower. An F ratio test for variances was applied as follows:

$$F = \frac{S_c^2}{S_e^2} \quad \text{or} \quad \text{The greater variance divided by the lesser variance.}$$

$$F = \frac{2.57}{1.65} = 1.56^*$$

* Not significant. $F \geq 2.94$ at .05 confidence level.

TABLE IV

CONTROL AND EXPERIMENTAL GROUP MEAN SCORES, DIFFERENCES, AND VARIANCES AS MEASURED BY THE POST-TEST

Group	N	Mean Score	Variance	Mean Diff.	d.f.
Experimental	11	6.48	1.65	.08	(n-1)
Control	12	5.62	2.57		(n-1)

From an F table for 11 d.f. and 10 d.f. respectively for the control and experimental groups, the F of 1.56 fell short of 2.94 needed for significance at the .05 confidence level. The inference was one of no significant variance difference existing between them. Therefore, they may be pooled for a t test.

Tukey's quick test (13) for location of possible significant differences was applied to the individual mean scores of the control and experimental groups. The scores were arranged in "high" to "low" rank order for each group. To be significant at the .05 confidence level, a critical count value of 7 was needed. A value of only 3 was obtained.

To provide additional evidence to support the first hypothesis, Lord's t test (9) was applied to the combined raters' mean scores for each subject in the control and experimental groups. These mean scores were obtained by totaling the separate numerical ratings of the nine behaviors rated for every subject in both the control and experimental groups. The final mean score for each rater was obtained by totaling the mean of both raters for each subject in the control and experimental groups. These results yielded a mean score of 5.96 for rater I and 6.04 for rater II. The difference between these mean scores was .08. A t value of 2.13 was required for significance at the .05 confidence level. A t value of only .014 was obtained. The mean scores of both raters are summarized in Table V.

On the basis of the preceding evidence, the first hypothesis tested--that mean scores of subjects provided with and without video replay experience would be equal--is supported.

TABLE V

MEAN SCORES OF POST-RATING INSTRUMENT

Rater	N	Range	Mean Total	Mean Score	Mean Diff.	d.f.	t Value
I	9**	36	536	5.96	.08	(n-1)	.014*
II	9**	45	544	6.04			

* Not significant. $p \geq 2.13$ at .05 confidence level.

** Incomplete data--assistant did not help observe two people in each group.

The second hypothesis tested was:

H_{o2}: No difference would be found in confidence levels of subjects toward their ability to teach as measured by a confidence scale between subjects provided with and without video tape replay experience.

Symbolically: $H_2 : M_1 = M_2$

An eight-question, four-point confidence scale was designed to provide evidence for testing this hypothesis. The pre-test was administered to all subjects in both the experimental and control groups before classroom teaching began. The same scale was administered as a post-test after the raters completed all classroom observations as discussed in Chapter III.

Both a non-parametric "Sign Test" and the Lord t test were applied in analyzing the "pre" and "post" confidence ratings in teaching abilities of the student teachers. The

sum of the differences of experimental "pre" and "post" confidence ratings was 68, resulting in a mean score of 6.18. The sum of the differences of the "pre" and "post" control ratings was 63 with a mean score of 5.73. A conversion formula, $\underline{Z} = 1.645 \sqrt{n}$, was used to calculate the .05 level of probability, resulting in a product of 5.46 needed for significance. The results obtained from application of the "Sign Test" are given in Table VI.

TABLE VI

CONTROL AND EXPERIMENTAL GROUPS PRE-POST SELF-CONFIDENCE RATING DIFFERENCES

Group	N	Sum of D's	Sign Diff.	Mean Change Score	Mean Diff.
Experimental	11	68	7	6.18*	.45
Control	11**	63	11	5.73*	

* Significant. $Z \geq 5.46$ one-tail .05 confidence level.
** No positive or negative change in one subject's rating.

The sign test result demonstrated that <u>both</u> experimental and control groups had improved self-confidence images to a significant degree. To determine if the experimental group level of confidence increased significantly more than the control group, a <u>t</u> test was employed. A <u>t</u> value equal to or greater than 1.720 was needed for significance at the .05 confidence level. A <u>t</u> value of only .301 was found. The data is summarized in Table VII.

TABLE VII

DATA FOR TEST OF SIGNIFICANT GAIN OF EXPERIMENTAL GROUP IN SELF-CONFIDENCE OF TEACHING ABILITIES

Group	N	Range	Mean Diff.	t value
Experimental	11	13	.45	.301*
Control	11	8		

* Not Significant. p. ≥ 1.720 at .05 confidence level.
** No positive or negative gain by one subject in control group.

On the basis of the preceding evidence, the second hypothesis tested--that no significant differences exist between the mean scores of teaching confidence for subjects who did, and did not receive video tape replay experiences--is supported.

After conferring with his advisor and statistical consultant, the investigator proceeded to calculate estimates of scale item correlation, and then a total (9-item) scale reliability, using total subjects' rating scores as the criterion variable. The following correlations were obtained. See Appendix A for raw data summary.

TABLE VIII

CORRELATIONS OBTAINED FROM SUBJECTS' INDIVIDUAL BEHAVIOR ITEM SCORES WITH TOTAL RATING AS A CRITERION

	Behavior									Total Scale Cons.
	I	II	III	IV	V	VI	VII	VIII	IX	
r :	.50	.83	.87	.83	.91	.86	.96	.98	.77	.88

Note: Pearson Product-Moment r Formula Used.

To determine the attitude of the subjects in the experimental group toward their video replay experience, a sixteen-question attitude scale was designed. This instrument was based upon the behaviors and principles experienced throughout the quarter of student teaching. The instrument was administered immediately after the raters' observations were completed. The results of the attitude questionnaire are stated descriptively both as percentages and frequencies in Table IX.

TABLE IX

ATTITUDE SCALE

Statement	Choice	Frequency	Per Cent
1.	I enjoyed receiving video tape experience during student teaching.		
	a. Very much so	5	45%
	b. Somewhat	5	45
	c. Not particularly	1	9
	d. Not at all	0	0
2.	The video tape can be utilized as a valuable teaching tool.		
	a. Strongly agree	3	28
	b. Agree	7	64
	c. Disagree	1	9
	d. Strongly disagree	0	0
3.	Self critique <u>alone</u> through video tape replay can be effective in helping to appraise my teaching.		
	a. Highly effective	2	18
	b. Effective	7	64
	c. Ineffective	2	18
	d. Highly ineffective	0	0

TABLE IX (Continued)

Statement	Choice	Frequency	Per Cent
4.	Supervisor critique provides a more accurate and meaningful appraisal of the lesson taught.		
	a. Extremely accurate and meaningful	6	55%
	b. Accurate and meaningful	5	45
	c. Inaccurate and not meaningful	0	0
	d. Extremely inaccurate and not meaningful	0	0
5.	The video tape replay becomes more meaningful if student self-critique is prior to student-supervisor critique.		
	a. Much more meaningful	2	18
	b. More meaningful	1	9
	c. As meaningful	7	64
	d. Less meaningful	0	0
	e. Much less meaningful	1	9
6.	When viewing the video tape replay, strengths and weaknesses of my movements in the room were readily seen.		
	a. Very readily seen	7	64
	b. Not readily seen	4	36
	c. Took much time to see	0	0
	d. Could never see without help of supervisor	0	0
7.	When viewing the video tape replay, strengths and weaknesses of my voice quality were readily seen.		
	a. Very readily seen	6	55
	b. Not readily seen	4	36
	c. Took much time to see	0	0
	d. Could never see without help of supervisor	1	9
8.	When viewing the video tape replay, strengths and weaknesses of my eye contact were readily seen.		
	a. Very readily seen	6	55
	b. Not readily seen	5	45
	c. Took much time to see	0	0
	d. Could never see without help of supervisor	0	0

TABLE IX (Continued)

Statement	Choice	Frequency	Per Cent
9.	When viewing the video tape replay, strengths and weaknesses of my gesturing were readily seen.		
	a. Very readily seen	7	64%
	b. Not readily seen	4	36
	c. Took much time to see	0	0
	d. Could never see without help of supervisor	0	0
10.	When viewing the video tape replay, strengths and weaknesses of my pausing techniques were readily seen.		
	a. Very readily seen	7	64
	b. Not readily seen	3	27
	c. Took much time to see	0	0
	d. Could never see without help of supervisor	1	9
11.	When viewing the video tape replay, strengths and weaknesses of my utilization of teaching aids were readily seen.		
	a. Very readily seen	10	91
	b. Not readily seen	1	9
	c. Took much time to see	0	0
	d. Could never see without help of supervisor	0	0
12.	When viewing the video tape replay, strengths and weaknesses of my stressing key points were readily seen.		
	a. Very readily seen	6	55
	b. Not readily seen	4	36
	c. Took much time to see	0	0
	d. Could never see without help of supervisor	1	9
13.	When viewing the video tape replay, strengths and weaknesses of my interactions with students were readily seen.		
	a. Very readily seen	10	91
	b. Not readily seen	1	9
	c. Took much time to see	0	0
	d. Could never see without help of supervisor	0	0

TABLE IX (Continued)

Statement	Choice	Frequency	Per Cent
14.	The video tape replay critique has made the total teaching act more meaningful.		
	a. Much more meaningful	1	9%
	b. Meaningful	8	75
	c. Not particularly meaningful	2	18
	d. Not meaningful at all	0	0
15.	After viewing myself on video tape, I would recommend the following number of exposures during the quarter of student teaching. (Check one.)		
	a. Two	2	18
	b. Three	5	45
	c. Four	1	9
	d. Five	0	0
	e. As many as possible	3	27
16.	I would recommend the video tape experience to my friends.		
	a. Strongly recommend	3	27
	b. Recommend	7	64
	c. Not advise	1	9
	d. Strongly advise against	0	0

II. SUMMARY OF THE FINDINGS

Two hypotheses were tested in this study. Their alternative hypotheses pertained to: H_1, the effectiveness of the video tape replay experience in increasing performance abilities of selected teaching behaviors of student teachers; and H_2, the effectiveness of the video tape replay experience in increasing confidence in ability to teach of student teachers.

The results of the findings pertaining to the two hypotheses are summarized in Tables X and XI, pages 49 and 50.

Based upon the findings summarized in Table X, the first null hypothesis is supported. The evidence indicates that when provided with video tape replay experiences, student teachers do not rate statistically higher in performances of selected teaching behaviors.

The second null hypothesis was also supported. The evidence summarized in Table XI indicates that provided with video tape replay experiences, the experimental group of student teachers did not display statistically higher self-confidence images. Both, however, did gain in self-confidence to a significant degree.

An additional analysis was performed using Pearson-Product-Moment r Formula to determine the correlations of the nine behavioral items and the total rating instrument. The results summarized in Table VIII indicate that eight of

the nine items rated revealed high correlations. Item one (Overt Mannerisms) appeared as a distraction in only two of the twenty-three observations resulting in a low correlation. The high total scale correlation indicates that generally all items were of great value to this study.

TABLE X

SUMMARY OF NULL HYPOTHESIS$_1$ FINDINGS: EFFECTS OF VIDEO REPLAY EXPERIENCE IN INCREASING PERFORMANCE OF SELECTED TEACHING BEHAVIORS

	Null Hypothesis	Criterion Instrument	Analysis Technique	Value Found	Value Needed for Significance	Decision
H_{o_1}:	No difference will be found between groups provided with, and without, video replay experience in their ability to perform selected teaching behaviors.	Post-experience rating instrument	F ratio test	F = 1.56	F 2.94 at .05 confidence level	Pool for Tukey's Quick Test of Location.
			Tukey's Quick Test of Location	critical value = 3	critical value = 7	Perform Lord's t test
		Mean score of both raters	Lord's t test	t = .014	t - 2.13 at .05 confidence level	Accept
	H_{o_1}: $M_1=M_2$					

TABLE XI

SUMMARY OF NULL HYPOTHESIS$_2$ FINDINGS: EFFECTS OF VIDEO TAPE REPLAY EXPERIENCE ON CONFIDENCE LEVEL TOWARD TEACHING

Null Hypothesis	Criterion Instrument	Analysis Technique	Value Found	Value Needed for Significance	Decision
H_{o2}: No differences exist between groups provided with, and without, video replay experiences in their confidence toward teaching H_{o2}: $M_1 = M_2$	Pre-post confidence scale rating	Lord's t test	$t = .301$	$t \geq 1.720$ at .05 confidence level	Accept

CHAPTER V

SUMMARY AND CONCLUSIONS

I. SUMMARY

This study investigated: (1) the effect of the video tape replay experience in increasing performances of selected teaching behaviors by student teachers; and (2) the effect of the video tape replay experience in increasing self-confidence in abilities to teach by student teachers. In addition, the study measured attitudes of student teachers toward their video replay experiences.

An experimental and control group were selected randomly from students enrolled in Education 442, Student Teaching, and Education 445, Student Teaching Seminar, as assigned to the elementary schools of the Ellensburg and Kittitas Student Teaching Centers, Central Washington State College, Ellensburg, Washington. Both groups received exposures to nine selected teaching behaviors throughout the quarter. The experimental group received a minimum of two video tape replay experiences, and the control group received classroom observation and critique from the supervisor or classroom teacher without video tape replay experience. Uncontrolled variables were assumed to be distributed randomly.

Two hypotheses were formulated:

H_1 : Mean scores of subjects receiving video tape replay experience will be higher than the subjects not receiving video replay experience as measured by a rating instrument.

H_2 : Subjects receiving video tape replay experience will exhibit a higher level of confidence in their ability to teach, as measured by a confidence scale, than subjects not receiving video replay experience.

Initial selection of teaching behaviors came from the Stanford Micro-Teaching Report. Three supervisors involved agreed that those behaviors were taught throughout the quarter in the student teaching program. Final selection and limitation was made by the investigator and research assistant. Both raters were self-trained in the use of the instrument. Five weeks were used for this process.

Following the instructional phase, both groups were observed for twenty minutes and rated as to performance of the nine teaching behaviors. The first hypothesis was rejected. Significant differences were not found between the groups on the mean test scores of the post instrument. Total mean scores of both raters were tested with a high correlation coefficient (.92 coefficient of observer reliability).

The evidence recorded on the confidence scale indicated that <u>both</u> groups' self-confidence in ability to teach

increased significantly. No significant differences were found, however, in the total mean scores of both groups in their self-confidence image.

Information obtained by the attitude scale indicated that participants did feel the video tape replay experience was helpful and worthwhile.

II. CONCLUSIONS

Several conclusions were made from the findings reported in this study:

1. Teaching performances of selected behaviors did not increase significantly as a result of video replay experience.
2. Student self-confidence ratings in ability to teach increased significantly with or without video replay experience. The experimental group, however, did improve more than the control group. The increase was not significant.
3. Since both groups were aware of participation in a study, and in which groups they were placed, it is concluded that the Hawthorne effect influenced the outcome of the study.

III. RECOMMENDATIONS FOR FUTURE RESEARCH

Within the confines of this study it is recommended that:

1. This study should be repeated so the results obtained from this study can be verified.
2. This study should be expanded to: (1) test a larger sample of student teachers; (2) provide one video tape laboratory for each supervisor or each school involved; and (3) provide a trained operator so the supervisor and classroom teacher can concentrate on the critique mode only.
3. The recognized limitations of the rating instrument demands continued research in the areas of: (1) classroom observation, (2) rating instruments, (3) prediction of teacher success in the classroom, and (4) teacher attitudes toward instructional innovation.
4. Opportunities for self-evaluation of teaching performances be increased in classes preceeding student teaching. This could possibly be achieved through increased use of mirror and micro-teaching situations with video tape replay.
5. Supervisors, cooperating teachers, and college instructors should be provided more inservice

training as to the operation and utilization of the video tape laboratory.

6. The conclusions and knowledge gained from this and similar studies be expanded over several years to follow a sample of teachers into their first years of teaching. Results of such a study could be incorporated into a dissertation at the doctoral level.

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BIBLIOGRAPHY

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APPENDIX A

RAW DATA: OBSERVER ITEM ANALYSIS CORRELATION

APPENDIX A

RAW DATA: OBSERVER ITEM ANALYSIS CORRELATION

Student Code*	Total Rating	Behaviors								
		I	II	III	IV	V	VI	VII	VIII	IX
1. 7c	72	8	8	8	8	8	8	8	8	8
2. 7e	72	8	8	8	8	8	7.5	8	8	8
3. 9c	70	8	8	8	8	8	8	7	7	8
4. 12c	69	8	7.5	8	6.5	8	7.5	8	7	8
5. 5e	68	8	7.5	7.5	8	7.5	7.5	7.5	7.5	7
6. 3e	67	8	7	8	8	8	6.5	8	6.5	7
7. 6e	66	8	8	8	8	7	6.5	7	7	6.5
8. 10e	66	8	7.5	8	7.5	7	6.5	7.5	7	7
9. 8e	65	8	7.5	7.5	7.5	7	7.5	6.5	5	7
10. 9e	63	8	8	8	8	4.5	4	8	7.5	7
11. 6c	62	8	8	7	7	5	4.5	7.5	7	7.5
12. 4c	59	8	7	7	7	7	7	6	5	6
13. 2e	55	8	6	7	6	5	5	6	5	7
14. 3c	50	8	7	6	7	4.5	4	4.5	4	5.5
15. 4e	49	7	7	5	7	4	5	5	4	6
16. 2c	46	8	5	5	5.5	4.5	5.5	4.5	4.5	3
17. 10c	45	8	4.5	6	8	4	5	4.5	3	3
18. 1e	44	8	3	4.5	7	3	5	4.5	2.5	7
19. 5c	40	8	7	3	4.5	4	4.5	4	4	1
20. 11c	40	8	5.5	6.5	6.5	2	1	4	3	6
21. 1c	36	8	5	3	4.5	1	4	1	4.5	4.5
22. 11e	28	8	4.5	1	4.5	3	1.5	2.5	1	2.5
23. 8c	21	4	4	2	4	2	1	1	1.5	2
$\bar{X}$	54.47	7.8	6.6	6.2	6.8	5.3	5.3	5.7	5.2	5.8

* "c" indicates member of control group, "e" indicates member of experimental group.

APPENDIX B

SELECTED TEACHING BEHAVIORS: OBSERVATION RATING SCALE

APPENDIX B

SELECTED TEACHING BEHAVIORS: OBSERVATION RATING SCALE

	Effective Use of Voice		Complementary Teacher Movements		Overt Mannerisms
poor 0 1	0 Monotone-no inflection no enthusiasm	poor 0 1	0 Paces continuously Stands in one place or sits continually 1 Blocks students' view of chalk board or display etc.	poor 0 1	0 Visible Totally inappropriate
fair 2 3	2 Displays some monotone Shows some modulation/ inflection 3 Only slight enthusiasm	fair 2 3	2 Does stand in one place for long period of time; however, does not block view of students. 3 Has pattern of movement	fair 2 3	2 Visible and grossly distracting
average 4 5	4 No monotone displayed Inflection/modulation Shows some enthusiasm	average 4 5	4 Does not stand in one place Does not block view of students 5 However, does not talk to all students Movement can be improved upon	average 4 5	4 Visible and slightly distracting
good 6 7	6 No monotone displayed Inflection/modulation readily seen 7 Enthusiasm apparent	good 6 7	6 Teacher noted in all areas of agreed teaching space. 7 Shows teacher has planned moves to enhance the lesson	good 6 7	6 Visible and not distracting
superior 8 9	8 Displays excellent voice control. 9 Children are enthused by teacher's activity	superior 8 9	8 Teacher moves executed in superior manner. 9 Shows careful planning so lesson is brought more to life.	superior 8 9	8 Not visible

Effective Pausing	Appropriate Gestures	Effective Eye Contact
poor 0 1 No pausing apparent	poor 0 1 No gestures	poor 0 1 Looks at floor or ceiling No eye contact with students Reads notes
fair 2 3 Pausing technique attempted - but confusion Perhaps inappropriate	fair 2 3 Only a few gestures Gestures are not appropriate to the lesson	fair 2 3 Occasional glance at floor or ceiling Some eye contact with students Occasional notes
average 4 5 Pausing attempted Successfully completed Lesson continued	average 4 5 Uses only a few gestures These gestures are quite effective. (Convey extra meaning.) Hand only.	average 4 5 Talks and has eye contact with only a few students No notes
good 6 7 Several pausing techniques were used successfully Lesson was enhanced	good 6 7 Uses only hand gestures Many gestures - extra meaning conveyed	good 6 7 Has eye contact with greater part of the class
superior 8 9 Teacher very aware of pausing techniques and timed them perfectly to enhance the lesson.	superior 8 9 Student uses hands, body, and head to help convey extra meaning to the lesson	superior 8 9 Apparent that total eye contact conveys extra meaning

	Effective Interactions	Stressing Key Points	Oral-Visual Switching
poor 0 1	0 No interaction	0 No attempt to stress key points.	0 Ineffective use of visual aid
fair 2 3	2 Direct questions to only a few/same students 3 Very few direct questions	2 Very hard for observer to detect when key points were stressed 3 Needed discussion	2 Telling - obvious not effective
average 4 5	4 One group question plus several direct questions	4 Key points were stressed by teacher. However, teacher made little/no attempt to make sure students understood	4 Telling obvious with few protections
good 6 7	6 2 or more questions to group plus several direct questions to several different students	6 Key points were stressed and readily apparent that most/some students understood. Apparent to observer.	6 Not telling but looking for obvious
superior 8 9	8 Group questions, student-student interchange, role play, go to board, teacher effectively mixes these	8 Teacher took special look at key points of lesson. Perhaps involve students to increase understanding to all	8 Inquiry - have student project into aid - not looking for obvious

APPENDIX C

ATTITUDE SCALE

APPENDIX C

ATTITUDE SCALE

PLEASE READ THE FOLLOWING STATEMENTS ABOUT YOUR VIDEO-TAPE EXPERIENCE AND STATE YOUR FEELINGS ABOUT EACH STATEMENT BY CHECKING ( ) EACH STATEMENT BELOW THAT EXPRESSES YOUR SENTIMENT.

1. I enjoyed receiving video-tape experience during student teaching.

   ___ Very much so
   ___ Somewhat
   ___ Not particularly
   ___ Not at all

2. The video-tape can be utilized as a valuable teaching tool.

   ___ Strongly agree
   ___ Agree
   ___ Disagree
   ___ Strongly disagree

3. Self critique Alone through video-tape playback can be effective in helping me to appraise my teaching.

   ___ Highly effective
   ___ Effective
   ___ Ineffective
   ___ Highly Ineffective

4. Supervisor critique provides a more accurate and meaningful appraisal of the lesson taught.

   ___ Extremely accurate and meaningful
   ___ Accurate and meaningful
   ___ Inaccurate and not meaningful
   ___ Extremely inaccurate and not meaningful

5. The video-tape replay becomes more meaningful if student self-critique is prior to student-supervisor critique.

   ___ Much more meaningful
   ___ More meaningful

___ As meaningful
___ Less meaningful
___ Much less meaningful

6. When viewing the video-tape replay, strengths and weaknesses of my Movements in the Room were readily seen.

___ Very readily seen
___ Not readily seen
___ Took much time to see
___ Could never see without help of supervisor

7. When viewing the video-tape replay, strengths and weaknesses of my Voice Quality were readily seen.

___ Very readily seen
___ Not readily seen
___ Took much time to see
___ Could never see without help of supervisor

8. When viewing the video-tape replay, strengths and weaknesses of my Eye Contact were readily seen.

___ Very readily seen
___ Not readily seen
___ Took much time to see
___ Could never see without help of supervisor

9. When viewing the video-tape replay, strengths and weaknesses of my gesturing were readily seen.

___ Very readily seen
___ Not readily seen
___ Took much time to see
___ Could never see without help of supervisor

10. When viewing the video-tape replay, strengths and weaknesses of my Lesson Pausing were readily seen.

___ Very readily seen
___ Not readily seen
___ Took much time to see
___ Could never see without help of supervisor

11. When viewing the video-tape replay, strengths and weaknesses of my utilization of teaching aids were readily seen.

___ Very readily seen
___ Not readily seen
___ Took much time to see
___ Could never see without help of supervisor

12. When viewing the video-tape replay, strengths and weaknesses of my Stressing Key Points were readily seen.

___ Very readily seen
___ Not readily seen
___ Took much time to see
___ Could never see without help of supervisor

13. When viewing the video-tape replay, strengths and weaknesses of my Interactions with Students were readily seen.

___ Very readily seen
___ Not readily seen
___ Took much time to see
___ Could never see without help of supervisor

14. The video-tape critique has made the total teaching act more meaningful.

___ Much more meaningful
___ Meaningful
___ Not particularly meaningful
___ Not meaningful at all

15. After viewing myself on video-tape, I would recommend the following number of exposures during the quarter of student teaching. (Check One)

___ Two
___ Three
___ Four
___ Five
___ As many as possible

16. I would recommend the video-tape experience to my friends.

___ Strongly recommend
___ Recommend
___ Not advise
___ Strongly advise against

APPENDIX D

PRE-POST CONFIDENCE SCALE

APPENDIX D

PRE-POST CONFIDENCE SCALE

1. I am confident that I can express lesson objectives clearly.

___ Very confident
___ Confident
___ Certain
___ Uncertain

2. I am confident that I can motivate students quickly at the beginning of the lesson.

___ Very confident
___ Confident
___ Certain
___ Uncertain

3. I am confident that I can plan for the total organization of the lesson (continuity of lesson).

___ Very confident
___ Confident
___ Certain
___ Uncertain

4. I am confident that I can select appropriate teaching materials for any particular lesson.

___ Very confident
___ Confident
___ Certain
___ Uncertain

5. I am confident that I can select appropriate audio-visual materials for any given lesson.

___ Very confident
___ Confident
___ Certain
___ Uncertain

6. I am confident that my personal mannerisms (gestures, eye contact, movement in room, voice) will enhance clarity of presentation.

___ Very confident
___ Confident
___ Certain
___ Uncertain

7. I am confident that I can recognize appropriate pace for the lesson.

___ Very confident
___ Confident
___ Certain
___ Uncertain

8. I am confident that I can self-evaluate the lesson presented.

___ Very confident
___ Confident
___ Certain
___ Uncertain